Appl. No. 10/032,781
AMENDMENT AND SUMMARY OF PERSONAL INTERVIEW
Docket No. KFHI-101

Amendments to the Claims:

This listing of claims will replace all prior listings of claims in the application. Please canceled non-elected Claims 27-36 and Claim 37, without prejudice or disclaimer, amend Claim 23, and add new Claims 38-47.

Listing of Claims:

1. (Previously Presented) A method for the continuous production of a dairy-based confection comprising:

a) heating an aqueous sugar composition to at least the boiling point in a first heat exchanger to obtain a boiling sugar composition,

b) admixing a protein-containing dairy component with the boiling sugar composition to obtain a dairy-based mass,

c) heating the dairy-based mass above the initial boiling point in a second heat exchanger, cooking the dairy-based mass, and obtaining a cooked dairy-based mass,

d) increasing the solids content of the cooked dairy-based mass, and

e) cooling the cooked dairy-based mass to obtain a dairy-based confection,

wherein the first and second heat exchangers are selected from the group consisting of a plate and frame heat exchanger, a shell and tube heat exchanger, and a coil heat exchanger, and said protein-containing dairy component is injected between said first and second heat exchangers.

2. (Previously Presented) A method as claimed in claim 1 wherein:

said dairy component contains water and is injected into said boiling sugar composition, and

vaporization of the water by steam from said boiling sugar composition admixes the dairy component with the boiling sugar composition.

3. (Original) A method as claimed in claim 1 wherein the dairy-based mass is flashed to remove moisture and increase the solids content of the dairy-based mass prior to said cooking.

4. (Original) A method as claimed in claim 1 wherein the aqueous sugar composition is heated in a counter-current heat exchanger and the dairy-based mass is cooked in a counter-current heat exchanger.

5. (Original) A method as claimed in claim 4 wherein the counter-current heat exchanger is a plate and frame heat exchanger.

6. (Original) A method as claimed in claim 1 wherein the dairy-based mass is heated in a plate and frame heat exchanger to a vigorous, agitated boil so as to prevent substantial precipitation of protein and fouling of the heat exchanger surfaces.

7. (Original) A method as claimed in claim 1 wherein the solids content of the cooked dairy-based mass is increased by flashing.

8. (Original) A method as claimed in claim 1 wherein the solids content of the cooked dairy-based mass is increased by the application of vacuum.

9. (Original) A method as claimed in claim 1 wherein the solids content of the cooked dairy-based mass is increased to obtain a dairy-based confection with a chewy texture.

10. (Original) A method as claimed in claim 1 wherein gelatin is admixed with the cooked dairy-based mass before increasing the solids content of the cooked dairy-based mass.

11. (Original) A method as claimed in claim 1 wherein the cooked dairy-based mass is subjected to pulling during cooling.

12. (Original) A method as claimed in claim 1 wherein the amount of said dairy component is from about 3% by weight to about 30% by weight, based upon the total weight of the dairy component and aqueous sugar composition.

13. (Original) A method as claimed in claim 1 wherein the protein content of the dairy-based confection is from about 0.4% by weight to about 5% by weight, based upon the weight of the dairy-based confection.

14. (Previously Presented) A method as claimed in claim 1 wherein said dairy component comprises at least one member selected from the group consisting of milk, cream, sweetened condensed skim milk, sweetened condensed whole milk, condensed milk, anhydrous milk fat, milk solids, whey, butter, yogurt, cascin, caseinate salts, protein containing dairy substitutes, and a mixture of milk or milk solids and cocoa.

15. (Original) A method as claimed in claim 1 wherein said aqueous sugar composition is heated to a temperature of from about 225°F to about 295°F.

16. (Original) A method as claimed in claim 15 wherein said dairy component is injected at a temperature of from about 36°F to about 60°F.

17. (Original) A method as claimed in claim 1 wherein said dairy-based mass is heated to a temperature of from about 245°F to about 295°F.

18. (Original) A method as claimed in claim 1 wherein said aqueous sugar composition comprises a mixture of sucrose with at least one syrup selected from the group consisting of corn syrup and wheat syrup.

19. (Original) A method as claimed in claim 1 wherein said aqueous sugar composition is heated at a pressure of from about atmospheric pressure to about 25 psig.

20. (Original) A method as claimed in claim 1 wherein said dairy-based mass is heated at a pressure of about atmospheric pressure to about 25 psig.

21. (Original) A method as claimed in claim 3 wherein the dairy-based mass is flashed at a pressure of about atmospheric pressure.

22. (Original) A method as claimed in claim 21 wherein the solids content of the cooked dairy-based mass is increased at a pressure of about atmospheric to about 28 in. Hg vacuum.

23. (Currently Amended) A method for the continuous production of a dairy-based confection comprising:

heating an aqueous sugar composition to at least the boiling point in a first plate and frame heat exchanger,

admixing a dairy component with the boiling, aqueous sugar composition after the boiling, aqueous sugar composition exits the first plate and frame heat exchanger to form a dairy-based mass,

heating the dairy-based mass above the initial boiling point in a second plate and frame heat exchanger to a final temperature to achieve a desired solids content after vapor separation, and

cooking said dairy-based mass in said second plate and frame heat exchanger without substantial separation or precipitation of the protein within the second plate and frame heat exchanger.

24. (Original) A method as claimed in claim 23 wherein the solids content of said dairy-based mass is increased prior to entering said second heat exchanger.

25. (Original) A method as claimed in claim 24 wherein the solids content of the cooked, dairy-based mass is increased after leaving said second heat exchanger.

26. (Original) A method as claimed in claim 25 wherein the solids content of the cooked, dairy-based mass is increased to at least about 90% by weight.

27-37. (Canceled)

38. (NEW) A method for the continuous production of a dairy-based confection, comprising:

dissolving sugars in a heating vessel or feed tank to form an aqueous sugar solution,

transferring the aqueous sugar solution to a first plate and frame heat exchanger,

heating the aqueous sugar composition to at least the boiling point in the first plate and frame heat exchanger,

admixing a dairy component with the boiling, aqueous sugar composition under turbulent flow after the boiling, aqueous sugar composition exits the first plate and frame heat exchanger to form a dairy-based mass, and

cooking said dairy-based mass above the initial boiling point in a second plate and frame heat exchanger under turbulent conditions without substantial separation or precipitation of the protein within the second plate and frame heat exchanger.

39. (NEW) A method according to claim 38, wherein the sugars are preheated in the heating vessel or feed tank to a temperature below the boiling point.

40. (NEW) A method according to claim 38, wherein the dairy component is injected into the boiling sugar composition containing steam.

41. (NEW) A method according to claim 38, wherein the admixing of the dairy component with the boiling, aqueous sugar composition creates turbulence in the boiling, aqueous sugar composition and the cooking of the dairy-based mass under turbulent conditions prevents precipitation and burning of the protein in the dairy component, thus preventing fouling in the second plate and frame heat exchanger.

42. (NEW) A method for the continuous production of a dairy-based confection, comprising:

heating an aqueous sugar composition to at least the boiling point in a first heat exchanger to obtain a boiling sugar composition,

transporting the boiling sugar composition from the first heat exchanger via a mixing pipe having an injection port,

injecting a dairy component into the injection port, thereby mixing the dairy component with the boiling sugar composition in the mixing pipe to obtain a dairy-based mass,

flashing off excess steam in a flash-off chamber thereby increasing the solids content of the dairy-based mass,

transporting the dairy-based mass from the flash-off chamber to a second heat exchanger,

heating the dairy-based mass to above the initial boiling point in the second heat exchanger, cooking the dairy-based mass to obtain a cooked dairy-based mass, and

cooling the cooked dairy-based mass to obtain a dairy-based confection.

43. (NEW) A method according to claim 42, wherein the first and the second heat exchangers are plate and frame heat exchangers.

44. (NEW) A method according to claim 42, wherein an in-line mixer admixes the injected dairy component with the boiling sugar composition.

45. (NEW) A method according to Claim 1, wherein the aqueous sugar composition is statically mixed within the first heat exchanger and the dairy-based mass is statically mixed within the second heat exchanger.

46. (NEW) A method according to Claim 23, further comprising flashing off excess steam in a flash-off chamber prior to heating the dairy-based mass in the second plate and frame heat exchanger.

47. (NEW) A method according to Claim 38, further comprising flashing off excess steam in a flash-off chamber prior to heating the dairy-based mass in the second plate and frame heat exchanger.